

“ANATOMY & ART.”

7.

A LECTURE

DELIVERED BEFORE THE

Society of Arts and Crafts of Carlisle,

SEPTEMBER 27th, 1907,

BY

HENRY A. LEDIARD, F.R.C.S.

PRICE SIXPENCE.

CARLISLE: CHARLES THURNAM & SONS.

LONDON: SIMPKIN, MARSHALL & CO.

26, LOWTHER STREET,
CARLISLE.

With the authors
complements

“ANATOMY & ART.”

A LECTURE

DELIVERED BEFORE THE

Society of Arts and Crafts of Carlisle,

SEPTEMBER 27th, 1907,

BY

HENRY A. LEDIARD, F.R.C.S.

PRICE SIXPENCE.



CARLISLE: CHARLES THURNAM & SONS.

LONDON: SIMPKIN, MARSHALL & CO.

INTRODUCTION.

The real point for to-night's consideration is whether a study of anatomy by the artist has been of any value in the past, and whether it should be fostered in the present day by those engaged in teaching and by those who are adopting art as a profession.

To give any reply to such a question can only be possible by glancing for a short time on works done by the Ancients, the Mediævals, and the Moderns, and by referring to any records in the history of painting and sculpture available. This looks like a long and wearisome process, but the glance given to-night can only be very superficial.

In taking up such a subject as Anatomy and Art, with two legs to rest upon, both legs should be of equal strength in order to support the weight of what lies on the top.

I may, or did know something of the rudiments of anatomy, but can have no such claim to any knowledge of art, therefore you are warned that I have very little cause to pose as one able to speak in the name of art. I am standing upon one leg, and am subject to the inconveniences of such insecurity.

The stork is a bird often found standing on one leg, but if you shout at him it puts down the other. The Committee of the Arts and Crafts have shouted at me, but unfortunately I have no other leg than anatomy to put down.

The moving power in art in all countries and all ages has been religion in one or another of its many forms, and Greek Sculpture, like the Greek temple, grew up under such influence, evidenced to us by the rude figures of deities in these buildings.

Anatomical details may be met with rendered with some success in some of the archaic pieces of statuary, but more evident attempt to express the anatomy of the human form was due to the exhibition of the nude figure in the olympic games; the training of the artist's eye for proportion then commenced.

The pedimental figures, with arms down by the side and lower limbs undivided, gave way to statuary showing action of limbs and muscles, and Pliny noted the success of a sculptor whose ability in rendering veins and sinews was remarkable in the 5th century B.C. A story was now to be rendered in marble and history recorded, and the struggles of the gods and giants, Greeks and Amazons, Lapiths and Centaurs, afforded a fresh stimulus to art. The sculptor Myron at this period far excelled all his predecessors by his life-like attitudes and complexity of movement which distinguished his work, but Pliny says he concerned himself with the body and did not express mental feelings. His "Diseobolos" is well known.

With regard to the study of anatomy at this period of Grecian art nothing is really known, but in an old book, Chiselden's Anatomy, published 1740, there is an engraving showing how Hippocrates found Democritus dissecting an animal. It was under Hippocrates that anatomy became a branch of medical education, and at first animals were used, subsequently the human body. There is no means

of knowing whether Pheidias, Myron, Polycleitos, or Praxitiles had any practical acquaintance with anatomy, but they lived in the same period with Hippocrates and may have been influenced by him.

Flaxman said that even at the best times of Grecian sculpture, and the era of Pheidias and Praxitiles, dissections were rare and anatomy very imperfectly understood. He cited the opinion of Pliny that the ancient artists owed much more to the study of the living than dead bodies.

In the earlier stages of Greek art the artist undoubtedly confined himself to improving the human body as he saw it from the outside, but it has also been inferred from the character of Greek sculptures that after the introduction of dissection by the Medical School of Alexandria, about 300 B.C., the artists were influenced by anatomical study. It is difficult to believe that these great sculptors knew nothing of the anatomy of the bones and of the muscles. If they did not, then their work creates more admiration than ever--approaching nearer to perfection in form as Grecian sculpture at its best undoubtedly did—if this was accomplished without anatomical aid the wonder of it is all the greater.

Chipped, mutilated, wanting in heads, arms, and legs, fragments of Grecian sculpture have been dug up from the soil which hid them from sight, brought great distances with fostering care, and preserved in the museums of Rome, Paris, and London, where they have been regarded as priceless treasures.

Why has this been so ?

There was at this period, the fourth and fifth centuries before Christ, a surpassing knowledge of form, of outline, of surface, contour, proportion,

attitude, and expression, for the features in these antique marbles showed a calm and majestic dignity and beauty in its highest ideal.

In one of his lectures on art Ruskin said that the Greeks studied the body glorified by war, but, he added, they studied the mind glorified by it. It is the *Μηϋς Αχιλλος* rather than the muscular force which the good beauty of the body itself signifies. You may remember that *Μηϋς* signifies wrath or anger, and it was the wrath of Achilles of which Homer sang.

Ruskin seemed to indicate that the mind was capable of transfiguring the body, and, if so, he was very near the truth.

A body showing a mass of muscular strength and development is only half beautiful; on any music hall stage muscularities are exposed, but the *Μηϋς Αχιλλος* will be wanting.

Here was the secret of the Greeks, a human body idealised, a standard of beauty for all time; a human face exhibiting strength rather than passion, repose rather than tumult, intellect rather than animalism.

You have but to glance at the so-called Venus of Milos—a statuette of which is here—the beauty of which baffles description.

Buried for perhaps 2,000 years in a small island in the Grecian Archipelago, and brought to Paris in 1820, no one knows even the name of the sculptor whose eye and whose fingers have been envied by all followers of the plastic art.

The Louvre statue gives a repose—now look at action, for Grecian statuary has left us examples of muscular energy for all time.

Calm, still, resting, as are the postures in some of the sitting or pedimental figures, with relaxed muscles, yet when the story required action, muscular contractions, muscular anatomy are all found, chiselled with surpassing fidelity, and never over done.

Examine the Frieze of the Order of the Mausoleum at the British Museum. Amazons and Greeks are fighting, you almost feel the excitement of the battle, fancy you see the blows descending and hear the thud of the hoofs of the flying horse.

In the Belvedere Palace there is a representation of Grecian art found at the close of the 15th century amongst the ruins of Antium. In it you may see the God Apollo radiant with youthful beauty. The figure is slender and elegant, the head lifts itself from the shoulders in an easy, natural manner, and the features are magnificent. A cast of the head is in the School of Art.

There is no exaggerated anatomy.

EGYPTIAN ART.

ANATOMY NOT FROM EAST, NO ANATOMY FROM INDIA
OR JAPAN.

EGYPT RICH IN MONUMENTS OF COLOSSAL PROPORTIONS.

EGYPTIANS DID NOT DISSECT.

Most things came from the East, but the impetus when it arrived in the West, flourished like a plant in fresh soil and developed, whereas the East remained very much as it was at the remote periods of the world's history.

Dissecting, however, did not come from the East for the orientals knew nothing of anatomy, nor was dissecting permissible.

So recently as the sixties English doctors taught anatomy in Japan by means of English anatomical plates, and post-mortem examinations were not allowed. We cannot then expect anatomical knowledge in Japanese Art, which consisted in the production of enormous bronze works for religious purposes.

Much the same holds good for India, with this added that the superhuman conceptions showed a tendency to exaggerate in a different direction and the anatomy broke out into an eight-arm divinity and other amazing distortions.

Fear was evidently the idea to be conveyed as well as all-powerfulness.

Passing on to Egypt we find that there existed a rich and independent civilization with monuments, the origin of which and the duration of which cannot be told.

Man dominated rather than the gods, and in the hands of the Egyptians sculpture attained a high perfection so early as the 22nd century before Christ. The figures are moderately raised and are painted with lively colours which have preserved their original freshness through the lapse of nearly 5,000 years. I draw attention to the plastic art in Egypt in order to show what was done without any knowledge of anatomy, for there is no proof that the Egyptians dissected the human body; a knowledge of the human form, proceeding from acute observation, promoted by the exercise of the artistic eye, they had undoubtedly and executed it upon the hardest stone.

The knowledge possessed by the ancient Egyptians is attested by their monuments, by their wall sculptures and paintings. The earlier statues of the human form are nearer to nature than those of later periods.

The great pyramid builders of *the fourth Dynasty* have never been surpassed as architects, and when a revival of art after periods of depression occurred, they returned to the 4th and 12th Dynasties to seek for the best models.

The 4th Dynasty was estimated at 3,766 years before Christ.

I cannot rest upon this part of the subject longer, than to say that the face was seen in profile, the feet were planted flat on the ground, the arms were stiff and the eyes showed a fixed stare.

GREEK MARBLE.

WOOD—MARBLE—BRONZE.

ISLAND OF PAROS.

As surely as among the Greeks sculpture was the leading art, and painting held a secondary position, so of necessity in modern times the relation must be reversed—you may perhaps know that the mainland islands of Greece were extraordinarily rich in marbles of a very superior kind, which were far more beautiful and effective in sculpture than any of the Italian marbles used in the Roman times and in modern days. I wonder if the presence of this marble had anything to do with the skill of

the Grecian sculptors, and had marble been wanting, where would the sculptors have been? But three materials were employed, wood, marble and bronze, but nothing is so beautiful or so effective as the stone which came from the quarries of the island of Paros. In the exhibition we have seen a life-like bit of wood carving, representing Lewis Waller, the actor; the likeness is admirable, you can see how wood tends itself to such work.

WINGS.

FABULOUS MONSTERS--ASSYRIANS.

WINGS CONDEMNED.

LOUVRE "WINGED VICTORY."

Humanity with wings belongs to the world of fairy tale imagination in the same way that the winged bulls and harpies and other strange beasts, which are not to be thought of anatomically. The fore leg of a horse and the wing of a bird are homologous to the human arm, from the shoulder girdle to the finger tips, and to place wings upon the human shoulder blade was an idea which had its origin prior to the beginning of anatomical study, and must be assigned to a fabulous conception.

Many beautiful pieces of statuary are shown as winged gods, but how these adjuncts were to be moved must be left to the imagination.

The Assyrians were celebrated for their statuary, representing, as it often did, a winged bull with the face or head human, but it is quite obvious that no anatomist was concerned in these things.

In the Louvre there is a statue of a "Winged Victory," a female form draped, wanting in head and arms, but the picture shows a splendid wing expanded as in flight. News is being conveyed, and the lady-bird is swooping in her eager desire. How much more beautiful is this statue, without arms. As an anatomist, I say arms would have spoiled the illusion.

THE NUDE.

DRAPED FIGURE CONCEALS ANATOMY AS A RULE.

GREEK DRAPERY OF FEMALE FIGURE VEILED BUT
DID NOT CONCEAL.

OLYMPIAN GAMES FOR STUDY OF NUDE.

The draped figure naturally allows less scope for display of anatomy, but the nude figure is not a subject for every day treatment.

Drapery is of value as a record of the period, as well as armour or military outfit, but in the Grecian statuary there is anatomical precision going with drapery which only enhances the value of the statue.

No modern dress can rival the chiselled drapery of the Greeks, which veiled but did not conceal the anatomy of the female form seen in the figures of the Elgin marbles. The feeling in early times was strongly opposed to the nude in art and it was so to a great extent in Greece, but the nude figures of those contesting for prizes in the Olympian games served to train the eyes of the Grecian sculptors, the body was seen in action with the muscles raised or slakened. The Greeks had models to work from

far superior to those ever seen in any life school in this country or in any other, and they took advantage of the opportunities.

Thus their male statues are generally nude, but the female representations are usually draped, as you may notice in the Metöps from the Parthenon.

MIDDLE AGES.

CHRISTIAN ABHORRENCE OF SCULPTURE.

ART IN THE CHRISTIAN ERA.

Sculpture was not encouraged by early Christians, who held to "Ye shall make you no idols nor graven images."

The gods and their battles, celebrated by the Grecians, were now a thing of the past, and the new religion swayed all the art of the day. The Madonna and child, the Crucified Saviour, the details of Christ's life, the martyrdom of the saints, and many Biblical events filled up the artists' time. Churches had to be decorated, walls to be frescoed, pictures to be provided for monastic establishments.

In the middle ages, however, there were difficulties to encounter for anatomical knowledge was impossible. Dissection of human bodies was forbidden and artists who endeavoured to study anatomy ran considerable risks.

There was not much anatomy to note prior to the 15th century in the pictures, drawing of the body was often very faulty, there was no sense of proportion, there was a relative want of proportion between the madonna and the child on her knees, there was but poor anatomy in the crucifixion scenes.

The positions of the figures were stiff, muscular energy was not seen, movement was not essential, or was lost in the ecstasy of the adoring worshippers.

Art was tied down to one subject, liberty was denied, but emancipation came, for as Stopford Brooke said, religious art of the middle ages perished with art itself when Tintoret died in Venice, and was only born again or awoke with the Oxford movement, a movement, to some extent, fostered by the Pre Raphaelite School.

The 15th century was a very remarkable one for art, seeing that the greatest painters in the world has ever known were of it.

I must allude to some of them because they were not only artists, but anatomists also.

MICHAEL ANGELO.

FLORENTINE MASTER OF 15TH CENTURY DEVOTED
HIMSELF TO ANATOMY.

This great Florentine master of the Renaissance, stamped his genius in the 15th century, and left an undying fame written on the walls of art. What I have to say about him refers chiefly to his claim to be an anatomist.

In order to be complete master of the human figure, the young Michael Angelo gave himself up for many years to anatomical study, more thoroughly than ever has been done by any other modern master.

By him for the first time since the period of the ancients, the human form in all its majesty was valued for its own sake.

It is written that the prior of a monastery allowed him to dissect dead bodies in a room of his convent, and in return for his kindness, Michael Angelo carved a life-size crucifix in wood for his chapel.

He liked to be called sculptor rather than a painter, though, as all visitors to Rome know, he did both marble and frescoes.

In his head of the statue of "David," the brows are knit together, the slight drawing of the mouth exhibits the determination of the lad who is about to throw the stone at the giant.

It was not the sling nor was it the stone that killed Goliath, it was the enthusiasm of the man who used the tools. Michael Angelo conquered anatomy by his enthusiasm for his art, and in this "David" statue, Michael Angelo broke away from the refined classic type and portrayed a large limbed stalwart youth. This statue is 17 feet high.

TITIAN, 1477—1576.

ANATOMICAL ARTIST MADE ANATOMICAL PLATES.

A word or two must be said about Titian, because he was another anatomical artist. He made anatomical plates which were used by Vesalins, a Court physician at Madrid, at the time Velasquez was there.

Clausen, in a recent lecture before the Royal Academy students, classed Titian amongst the greatest masters of painting that the world has ever seen.

It was as a portrait painter that he was the most celebrated, but his "Entombment" picture

in the Louvre, shows a fine example of lifeless anatomy in the figure of the dead Christ.

RAPHAEL, 1483—1520.

KNOWN BY HIS CARTOONS, HIS POWER OF GROUPING,
HIS ANATOMICAL SKILL.

Raphael is known to us in this country by his cartoons designed for the walls of the Sistine chapel. They demonstrate Raphael's power of grouping a company and making the attitude of the body not only strictly anatomical, but remarkably expressive of what was going on. In nearly all, the feet and the hands are made to illustrate other details of the story told, whilst the varying expressions of the faces, which show terror, doubt, adoration, amazement, curiosity, scepticism, and many others, with a skill that is unrivalled by any artist the world has ever known.

That Raphael was an anatomist there can hardly be any doubt after looking at his cartoons, because he has grasped nearly all the attitudes of the body with strict regard to the occasion.

There is marked muscular action of the men in the miraculous draught of fishes, which indicates the weight of the net which is hardly visible. Raphael's genius was highly dramatic and this may have led to some of his figures appearing rather bulky, though the heavy drapery was the chief cause.

These cartoons used to be found at Hampton Court, and when I last saw them there were at South Kensington, and have been employed by Poynter for teaching purposes.

LEONARDO DA VINCI.

 15TH CENTURY SCULPTOR, ANATOMIST, AND DISSECTOR.

 HIS BOOK ON PAINTING.

Of Leonardo da Vinci, the great 15th century sculptor and painter, much might be said, but I must limit mention of him in all respects but one. He was an anatomist when the Church taught the sacredness of the human corpse. At some risk he dissected, and his own statement is that he so treated more than ten human bodies.

He wrote on anatomy, he made anatomical drawings, and was the first sculptor and painter who took up anatomy in a vigorous and masterly way, and he did it in order the better to paint and to make statues.

The influence of his knowledge of anatomy is evident in his work.

Here is an example of Leonardo da Vinci's instructions.

“How to represent old men” :—

“Old men must have slow and heavy motions,
 “their legs and knees must be bent when
 “they are standing and their feet placed
 “parallel and wide asunder.

“Let them be bowed forwards, the head leaning
 “much forward, and their arms very little
 “extended.”

No artist should be for a moment without this book for reference and study.

PROPORTION.

POLYCLEITOS—LEONARDO DA VINCI—ALBRECHT
DÜRER.

There is no figure without some blemish, and the artist has to pick out from many the pleasing traits he desires to paint. It is necessary to have a unit of proportion for reference, and the first to establish the principle in art was Polycleitos, who some 400 years before Christ made two typical figures and in them he laid down the law of human proportions.

His figures were both athletes, the Diadumenos, or victorious athlete, binding his hair with a fillet and the Doryphoros, or the spear bearer.

These were bronze statues, and the muscles are rendered with a vigour and accuracy to which no other sculptor attained.

In the present day the head is taken as the unit of comparison, and the height of the figure is equal to $7\frac{1}{2}$ heads. This is the proportion of the head to height in the "Antinous." The "Gladiator" and the "Farnese Hercules" measure 8 heads, as also the "Venus of Milo." You will find a chapter devoted to proportions in Thomson's *Hand-book of Anatomy for Art Students*. [For example, the thigh bone is equal to 2 heads length, the shin bone equals a little more than $1\frac{1}{2}$ heads.] There are other proportions to remember which concern age, sex, and childhood, which cannot be touched on, but they are essentially anatomical details with which all artists must be familiar.

Another 15th century artist, Albrecht Dürer, celebrated in many respects, was the author of a work on the proportions of the human figure,

published 1528. The book was lent to me by Mr. Thompson Wigham, of this City, and you can see it for yourselves.

Lastly, in a treatise on painting by Leonardo da Vinci, there is a chapter on proportion.

These works would have been useful to the artists of the Christian Era.

ANATOMY OF DEATH.

DYING RATHER THAN DEATH

DEAD CHRIST.

CAST OF DEAD GREEK.

I am disposed to think that the great antique sculptors preferred to exhibit "dying" rather than "death," and in this respect they attempted to do more than was done by religious art, or at all events art that was covered by religious motives. To represent dying or even to die on the stage in the present day is a very searching matter, even for a good actor, in order to avoid the grotesque.

To represent death on canvas or in marble is a less severe test, unless much grouping of figures is required, but it is the anatomy of the dead body to which I refer.

In the plastic art of the Grecians, the death of a hero was shown with a sympathy in which the whole figure joined. The head, the hands, the feet, spine, and face, all united to express the fading of life from the body.

On the other hand, the great masters of painting found representations of the crucifixion and entombment of Christ a profitable subject, and any

knowledge of anatomy they had was put to some purpose.

Stretched upon the cross, the figure of Christ is subject to laws of gravity, rather to the display of muscular contractions, or should be. In nearly all crucifixion scenes the arms are extended at a right angle to the trunk, this in my opinion may be picturesque, but is not truthful. In suspension of the body by nails driven through the palms, the arms would be raised far above the head, the body sagging in accordance with gravity. The joints of the knees would incline to bend forwards, rather than remain in contact with the tree. No doubt the crucifixion had been ideally rather than really represented, and if this is so, I should not press my objection, so long as it was clearly understood to be so.

Again, in the entombment paintings, the hands round the body of Christ seem to caress the corpse rather than to feel the weight, but the object here was to present a scene and make a picture, which, if realistically painted, would have been a failure.

In one of the casts there is a dead Greek borne by a comrade from the field. A female figure with bowed head stands in an attitude of profound sorrow. The effort of the Greek who carries the dead is very evident, the helplessness of grief is exactly rendered.

THE DELLA ROBBIAS.

FOUNDLING HOSPITAL AT FLORENCE.

This is a wall decoration outside the Foundling Hospital at Florence, done by Andrea Della Robbia,

a 15th century sculptor, celebrated for his burnt clay work, which was not painted, but covered with a glazed colouring.

I mention these celebrated artists because the children they designed exhibit graceful, anatomical proportions.

Compare the Della Robbia infants with some of those in the laps of the Madonnas and you will at once admit that in the art of human proportion and child-like expression, the Della Robbias taught an excellent lesson.

GIGANTISM IN ART.—QUESTIONS OF PROPOSITION.

ETTY'S WORK.

DWARFS BY VELASQUEZ.

Few painters in this country have attempted enlarged human figures, perhaps for obvious reasons, but all who have visited the National Gallery in Edinburgh have seen Etty's gigantic pictures of Judith and Holofernes. Such work gives the spectator much discomfort, because these canvasses stretch from floor to ceiling, and should be viewed at some distance.

It is stated that Etty was a constant student in the Life School of the Royal Academy. Four of his pictures are to be found at the Tate Gallery, and of these "Youth at the Prow and Pleasure at the Helm," will be remembered.

If the great Spanish painter, Velasquez, chose to paint dwarfs, it was because the Spanish Court

kept dwarfs as playthings, and perhaps Velasquez took to painting them because they were there at hand, and not because they were his ideals, for the position of Velasquez in the world's history is as assured as that of Beethoven.

That Velasquez was an anatomist, anybody looking at his Rokeby Venus may be confident.

HANDS AND FEET.

WRIST—GLOVED HAND.

I question whether there are greater difficulties for the sculptor or the painter than are to be met with when dealing with the hand and foot.

The sculptor cannot shirk either, but the painter finds that the feet are frequently neither seen at all or only seen covered.

The reason for difficulty lies in the hands and feet being made up of so many bones and being capable of taking so many positions, such as for the hand—open or closed, grasping, or pointing, clenched as a fist, or lifeless as in death.

The tendons guiding the fingers are more or less visible, so that there is no joint in the body so filled with expression as the wrist, and no joint so difficult to master.

In many engravings of pictures of artists celebrated in the middle ages (Carlo Maratt for example) the fingers are out of drawing, and the hand either stiff or placed in an unmeaning pose.

GLOVES.

Titian has a well known picture in the Louvre. The right hand is anatomically rendered with a ring on the forefinger, but the left wears a glove and holds the other glove in an easy grasp. Titian did not shirk the anatomy of hands, nor does the light on the hands seem to destroy the balance of the picture, though they undoubtedly take some of the attention from the face.

In the Wallace Museum in London, Velasquez's portrait of a lady with a fan is well known. The hands are seen to be gloved, but yet the anatomy of the bones has not been forgotten.

PORTRAITS.

OLD AGE—YOUTH—INFANTS.

REMBRANDT—THOMAS FAED.

Draped as may be the body in the present day for the most part, yet there is scope for the anatomist in drawing the face, neck, arms, shoulders and hands. The face is naturally the part where the portrait painter stamps his likeness, and age has much to do with the success obtained.

If the face of a child is smooth, round, and chubby, like Raphael's angels, the face of old age is cut up into an infinity of rugged lines.

In the young these lines have never appeared, and the features are padded out by the fat lying amongst the muscles of expression. In old age

muscular fixation, and wasting of fat, cause lines of care to appear everywhere, and character is almost unconcealed.

Of all great masters Rembrandt seems the most conscious of the beauty of old age, for, in his portraits of an old Jew, he gives expression of calmness, of repose, of thoughtfulness, and of power to the face, lined with wrinkles, and furrowed by age, and the hands folded, wrinkled, are painted with just the same care and mastery.

In the present day I know of no artist who succeeded better in portraying the anatomy of old age than Thomas Faed, who rejoiced in placing the old and the young side by side and boldly contrasting their anatomy.

FRANÇOIS MILLET.

CAPACITY FOR SHOWING MOVEMENT.

Of figures intently engaged in work in the fields, nothing can surpass Millet's "Gleaners" in the Louvre.

Two women are bent, and the right hand of each is grasping, or about to grasp, the ear of wheat on the field.

The anatomy, though covered with drapery, is without fault, and Millet, if he did not study the surface muscles of the body practically, was a brilliant student in the life school.

There is a Pastel by Millet, "The Sower," filled with life, with energy, and with absorption in the task of sowing seed on a field prepared. It is a masterpiece of anatomical drawing.

LITERATURE AND ART.

MORBID SUBJECTS AVOIDED BY ARTISTS.

HOGARTH'S EXPRESSION—HIS STORY CARICATURES.

All art critics remark upon Hogarth's work, work which stands absolutely alone in this or any other country.

His works are true history in a special sense. Every feature, limb, figure, group, is instinct with life and motion.

The anatomy of expression finds a complete home in Hogarth's faces. The muscles distort the mouth with laughter, and knit the brow, pucker the cheeks, or the eyes are made to squint according to the story his canvas is showing.

Hogarth did not attempt the nude figure, but he was intimately acquainted with the anatomy of expression, not only of the face but of the whole body.

MONUMENTAL SKELETONS.

ROUBILLAC—BERNINI.

LADY ELIZABETH NIGHTINGALE MONUMENT.

DIED, 1731—MONUMENT SET UP, 1761.

In this monument, well-known to all visitors at Westminster Abbey, Death is represented in a skeleton form, aiming his dart at the lady. Of course this is a poetic and theatrical design.

The various bones of the skull and fingers are wonderfully done, but how could bones hold anything without muscles? So that the monument gives a shudder to an anatomist.

The work was done by Roubillac, a sculptor of Lyons, who came to England in the reign of George I. He stood at the head of his profession, and died in 1762, so that this skeleton was one of his last works.

Roubillac was not the only sculptor who indulged this morbid taste, probably he merely repeated the monumental lesson of the common lot of man taught him by Bernini, who introduced the skeleton figure of Death in one of his earliest tombs, the monument of Urban VIII, in St. Peter's, where Death with her bony hand is completing the inscription on a marble panel.

In the monument of Alexander VII, the skeleton is raising a marble curtain, designed to conceal the door to the vault.

In these examples we see that allegory was influencing the sculptor in his art. The anatomy of the bones was less an object than to strike religious terror into the beholder; there are other similar examples of this pseudo artistic work. One would have liked to have heard the comments of Pheidias, when standing near these monuments.

SIR CHARLES BELL.

ANATOMY OF EXPRESSION.

PHOTOGRAPHY—ITS USE IN ANATOMICAL ART.

CATS.

CHARLES DARWEN.

EMOTIONS IN MAN AND ANIMALS.

In 1806, Charles Bell brought out his essays on the Anatomy of Expression in Painting, his

object being to demonstrate the importance and uses of anatomy to the designer and to the painter.

He said that expression was wanting in the infancy of sculpture, for the arm was not raised from the side. Bell might also have added that the legs, though indicated, were at one time not divided by the sculptor. Bell drew attention to muscular display being momentary, and to the need there was for the artist to study the class of muscles engaged in an action, and that the idea of movement necessitated a knowledge of anatomy. He said the anatomical student had an advantage over the student who knew none. If the art of photography had existed in Bell's time I expect he would have made use of it.

Here at any rate, 100 years ago, the anatomy expression was taken up in a scientific spirit and taught with the means then at the disposal of the anatomist.

INFLUENCE OF PHOTOGRAPHY.

Whether I am violating the principles of art or not I cannot say, but it seems to me that during the Victorian age a fresh aid and stimulant has been at the service of the sculptor and painter—I allude to the use of the camera. There are some combined actions of the entire body which would be difficult to repeat on stone or canvas without an instantaneous picture. For example, some of the attitudes in fencing, and the position of the bowler about to let go his piece of wood. For such combined

I am indebted to Mr. Philip Howard, of Corby Castle, for the loan of Bell's Essays, of which the copy is a first Edition.

muscular efforts, which concern the expression of the face, the position of the limbs, and the contraction of special muscles or group of muscles, *instantaneous photography of the positions* seems, to me, an invaluable and legitimate aid to the art student in his anatomical study, or for reproduction in works of art.

There are fallacies in the photographic art which must be allowed for, but the actions of birds flying, of horses leaping, of dogs at play or working in the field, of various animals in their wild or caged conditions have been brought to a pitch of perfection by the aid of the photographer, and has thus perfected our pleasure in nature, our eye for form and critical power have been enormously advanced.

The artist of the present day paints and receives aid from the photographer, who photographs the drapery of his picture and outlines some of the important parts of the picture.

Abused as this fresh aid may be, the true artist will never be contented to rest on the camera, but simply to use it as a walking stick when mounting a hill.

An animal is so invested with fur or feather that the anatomy is concealed, and artists are confined to the general attitude in order to give expression.

The features, however, of the dog, cat, monkey, horse, or many other animals, domestic or otherwise, are aided by the extraordinary power of movement of the ears and the expressions of the mouth, which is always large in proportion to other parts of the head.

The anatomical expression of a dog commences at the tip of his tail and is displayed over the whole

body, eye, mouth, limbs, coat, and turn of the head, and it is even more fully shown in the cat when roused to defend itself against an enemy.

Although human beings are provided with muscles for using the ear in pricking, advancing or laying back like a horse or other animal, we don't often see them employed.

Another book treating of the varieties of expression is Darwin's, probably well-known to everyone. This great naturalist dealt with the expression of the emotions in man and animals in an entirely novel manner, breaking fresh ground in the same way as Charles Bell did fifty years previously. Darwin's object, however, was not artistic in the same sense as Bell's, but his book should be read by all interested in the anatomy of expression.

THE PRE RAPHAELITES.

These artists included in their body some of the most celebrated Victorians—Millais, Rossetti, Madox Brown, Holman Hunt, and Collins. Their efforts to break away from the every day methods of art brought upon them the wrath of the Academy, into which some never obtained entrance.

The anatomy of the Pre Raphaelites was the anatomy of expression rather than that of bones and muscles.

Indeed some of their pictures required a guide to explain the deeply laid story they were intended to tell.

In Holman Hunt's "Light of the World," the hand knocking at the door is done with great anatomical faithfulness, as well as the hand holding the lantern, whilst the face of Christ expresses an expectant hopefulness of reply to the summons.

In his "Shadow of Death," Hunt has given an almost nude figure of Christ, and has braved the anatomical difficulties with a near approach to success, but I should say that Hunt was a better colourist, that anatomy of posture was a secondary thing to him, and that his carpenter's shavings on the floor were done with greater accuracy than the body of the chief figure.

STATUARY IN WESTMINSTER ABBEY.

RECUMBENT EFFIGIES—VICTORIAN AGE.

A visit to Westminster Abbey in the present day is a somewhat mournful experience, for stretched out upon raised tombs are seen effigies of the departed, with hands folded and toes pointed upwards, in absolutely absurd and unreal attitudes. Whilst crowded in the isles are seen groups of standing and gesticulating actresses, statesmen, and literati; so massed are they that the general impression is a confusion.

Here again we see that for religious purposes, art lent her aid in more or less success.

The recumbent effigy is stated to be Christian, but the statue is Pagan and not admitted as good taste, in the present day, to a sacred edifice.

The only anatomical feature of the recumbent effigy is the face and perhaps hands folded, or placed together, but the statue gives more chance to the sculptor, for here the arms are placed as in motion, the bend of the head or slope of the spine afford the sculptor chances of proving his knowledge of the human form.

These recumbent effigies we see, are decadent, although not a year passes without some being added to our abbeys and cathedrals.

Let us hope that the sympathetic survivors of church dignitaries, will in the future be able to express their respect for the dead in a more useful, more artistic, and more appreciable manner.

The Victorian age was not one in which much taste was exhibited, there was throughout much that was morbid, much that was ugly, and absolutely inartistic.

The paintings of Noel Paton, who devoted much of his genius to allegorical subjects, showed up a morbid sentimentality which was not even lit up by bold anatomical drawing. No doubt however, he thoroughly satisfied the Victorian sentimentality of his day, but it was not art in any sense, beyond the colours represented.

A day will come, let me hope it will be soon, when the forest of statuary will be removed from Westminster Abbey, when the work of Chantrey will be placed where it can be seen to advantage, and when the architecture of the Abbey is no more spoiled as it now is by such obstructions.

CONCLUDING REMARKS.

IMPORTANCE OF THE STUDY OF ANATOMY FOR ARTISTS.

I have endeavoured to trace, in the briefest manner, the rise and progress of anatomical art from the years before Christ down to the present day. I have pointed out how much was done, what great triumphs were achieved with but little assistance from anatomy. I have dwelt upon those great Renaissance Artists who not only studied anatomy, but were teachers of it, and an endeavour has been made to show that in the present day there is every need for art students who wish to do anything great to study the anatomy of the human figure.

I can quite believe that a study of dissections might not be of use to all students, some of whom might succeed as did the Greeks without it, and simply make use of their eye for surface and trust to it, but there are others to whom the revelation of the contour and actions of the muscles lying beneath the skin, would act as an inspiration and enable them to touch a height, they would never have reached without it.

I would not place any limit upon the use an artist student might care to make of the dead subject, but for many, perhaps, practical demonstrations of dissected muscles would be sufficient.

With internal organs the student has no dealing, but no figure painter would risk an ignorance of the general lie of the joints, and the contrast of the dry skeleton of the two sexes.

To study anatomy practically, an artist should be in touch with a medical school or some licensed place under the Anatomy Act, but short of this there is always a skeleton, there are casts of the muscles of the surface of the body, there are drawings specially made, and there is a splendid Text Book by Arthur Thomson, Professor of Anatomy at Oxford, whose Handbook of Anatomy for Art Students is a reliable and indispensable guide.

WHERE TO STUDY FORM AND ANATOMY.

— — —

I think I know where good British types are to be met for art purposes, but these might have to be dealt with by the aid of photography. Go to Olympia when the Naval and Military Tournament is on, and watch the men from Aldershot doing Swedish exercises.

On the other hand, avoid the cooling room of the Turkish Baths at Harrogate on a Sunday morning, where generous outlines would be found, but hardly types of beauty.

Lastly, the best book all round on the subject is, Rolliman's *Plastische Anatomie für Künstler*.